

REMARKS

Reconsideration of this application is requested. Claims 62-85 and 87-92 are in the case.

I. DOUBLE PATENTING

Claims 62-92 stand rejected under obviousness-type double patenting grounds as allegedly unpatentable over claims 1-8 of U.S. Patent 6,017,834 in view of U.S. Patent 5,017,627 to Bonfield et al. This rejection is respectfully traversed.

Without conceding to the merit of this rejection, claim 62 has been amended to recite that the fibers are of maximum dimension 1 mm. Basis for this amendment appears in the specification as originally filed at page 4, lines 23-25.

Claim 62 requires that the composite material include fibers. Bonfield essentially completely melts all of the polyolefin material, which necessarily results in removal of all fiber structure (see column 4, lines 20-25 which indicates that the polyolefin is "melted"). The patent also discloses at column 2, beginning at line 34 that the polyolefin is milled at a temperature above its softening point, i.e., 200°C to 260°C. Preferred HMPE fibers of the present invention melt at 140°C. Such a temperature treatment would thus ensure complete melting and loss of any fiber structure.

Claim 62 as amended specifies that the fibers are of maximum dimension 1 mm. The **claims** of U.S. Patent 6,017,834 to Ward do not refer to such a dimension (the specification of Ward refers to the possibility of using chopped fibers which are "assembled", but it is not practical to make an assembly of fibers chopped to a maximum dimension of 1 mm).

In light of the above, it is clear that the claimed invention of the present application is not obvious over the claims of U.S. Patent 6,017,834 to Ward either alone or in view of Bonfield. Withdrawal of the obviousness-type double patent rejection is accordingly requested.

II. THE OBVIOUSNESS REJECTION

Claims 62-92 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Ward in view of Bonfield. That rejection is respectfully traversed.

The Examiner states on page 3 of the Action that Ward discloses a fiber length under .5 mm (column 3, line 30). This is not correct. The passage at column 3, lines 29-30 specifies that the fibers have a **diameter** in the range 0.005 to 0.05 mm. There is no disclosure in the cited art of a maximum dimension of 1 mm, and a person of ordinary skill would have had no motivation based on the cited art to arrive at such a dimension. The invention of the present application discloses that by choosing such a maximum dimension, extrusion is such as to provide improved mechanical properties which could not have been predicted based on the Ward and/or Bonfield disclosures.

Example 6 of Ward refers to chopped SNIA fibers. However, such fibers are not disclosed at lengths as short as 1 mm.

The starting material chopped fiber of the present application is supplied at 3.2 – 3.8 mm (Table 1, page 13). The discovery of the present invention is that the very short length of chopped fiber (maximum dimension 1 mm), the presence of which is unobviously retained in the structure of the final material, gives the product the property

of being capable of being extruded to give a material of exceptionally high modulus while including high levels of filler material.

For all of the above reasons, it is clear that one of ordinary skill would **not** have been motivated to arrive at the presently claimed invention based on the combined disclosures of Ward and Bonfield. Absent any such motivation, a *prima facie* case of obviousness is not generated in this case. Reconsideration and withdrawal of the outstanding obviousness rejection is accordingly respectfully requested.

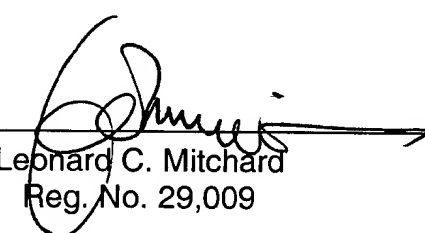
Allowance of the application is awaited.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned **"Version With Markings To Show Changes Made."**

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

62 (Amended). A prosthesis comprising a composite material, said composite material comprising [an] a particulate inorganic filler material and a fibrous polymeric material, wherein said fibrous polymeric material [comprising] comprises molecularly oriented polymeric fibers [and having] of maximum dimension 1 mm and a recrystallized melt phase, the fibers and melt phase being of the same polymer and being derived from common molecularly oriented precursor polymer fibers by melting a proportion of the polymer of the precursor fibers, the recrystallized melt phase consisting of from 5% to 50% by weight of the polymeric material and having a melting point less than that of the molecularly oriented fiber so as to join areas of adjacent [oriented] fibers [fused together] to form a network or continuous matrix [while retaining fibrous structure in the composite] which binds the fibers and filler together.

63 (Amended). A prosthesis as claimed in Claim 62, wherein the [fused] precursor fibers are [in chopped form] of maximum length of 0.5 mm.

65 (Amended). A prosthesis as claimed in Claim 62, wherein the inorganic filler is [a particulate filler] up to 60% volume of the composite material.